INPUT CONTROLLING METHOD OF PLL CIRCUIT

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Abstract

PROBLEM TO BE SOLVED: To improve a phase characteristic like software by using prediction control logic in a PLL circuit which looks ahead a noise signal and a target (input) signal to some extent.
SOLUTION: A discrete state equation and an output equation are determined from the transfer function of a PLL circuit (100), and an error of a target signal and an output signal is defined (101). An equation of state variables and errors is acquired from each above expression and an error system is acquired (102). An evaluation function that reflects the prediction control of the target signal and noise signal is taken in and control input is calculated (103 and 104). The current value of the control input is calculated and added to a just preceding target value and made the current PLL input (105 and 106). The next control input is calculated again (107), and it is added to a just preceding target value and made a PLL input. By repeating the above, a phase characteristic can be improved.